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Department of Computer Science and Engineering

CSE 521, Spring 2001

<u>Homework 8</u>, **This one is just for fun!**

Problem 1. From the text:

CLR, Page 614, Exercise 27.4-3.

Problem 2. From the text:

CLR, Page 625, Problem 27-1.

Problem 3. From the text:

CLR, Page 627, Problem 27-4.

Problem 4. Maximum Flow using a small number of edges:

Prove that the problem of finding a maximum flow in a graph which uses as few edges as possible is NP-complete. Formally, the input is a directed graph G with capacities on the edges, and an integer K, and the question is "does there exist a maximum flow f such that at most K edges have $f(e) > 0$?".

Hint: Give a reduction from Vertex Cover.